Claims

1. A synergistic fermented composition useful in promoting plant growth, soil health and bio-controlling, said composition comprising bovine urine; crushed neem leaves of concentration ranging between 10 to 750 grams/liter of bovine urine and/or crushed garlic bulbs of concentration ranging between 1 to 500 grams/liter of bovine urine, optionally along with carrier(s).
2. A synergistic composition as claimed in claim 1, wherein the concentration of neem is preferably 250 grams/liter of bovine urine.
3. A synergistic composition as claimed in claim 1, wherein the concentration of garlic is preferably 100 grams/liter of bovine urine.
4. A synergistic composition as claimed in claim 1, wherein the bovine urine is fresh bovine urine.
5. A synergistic composition as claimed in claim 1, wherein the bovine urine is cow urine.
6. A synergistic composition as claimed in claim 1, wherein the carrier is selected from a group comprising vermicompost, soil, peat, rice husk, vermiculite, carboxymethyl cellulose, perlite, polyvinyl-pyrrolidone, talc, and fermented pres mud.
7. A synergistic composition as claimed in claim 1, wherein the carrier is preferably vermicompost or fermented pres mud.
8. A synergistic composition as claimed in claim 1, wherein the concentration of carrier is ranging between 10 to 1000 gm/ liter of bovine urine.
9. A process of preparing synergistic fermented composition comprising cow urine, crushed neem leaves of concentration ranging between 10 to 750 grams/liter of bovine urine, and/or crushed garlic bulbs of concentration ranging between 1 to 500 grams/liter of bovine urine, optionally along with carrier(s), useful in promoting plant growth, said process comprising steps of:
    a. collecting fresh urine from healthy bovine,
    b. adding crushed garlic bulbs and neem leaves to the collected urine,
    c. fermenting resultant mixture of step (b) to obtain the synergistic composition, and
    d. optionally, adding carrier to the synergistic composition.

10. A process as claimed in claim 9, wherein the concentration of neem is preferably 250 grams/liter of bovine urine.

11. A process as claimed in claim 9, wherein the concentration of garlic is preferably 100 grams/liter of bovine urine.

12. A process as claimed in claim 9, wherein the bovine is cow.

13. A process as claimed in claim 9, wherein fermenting the resultant mixture for about 30 days.

14. A process as claimed in claim 9, wherein the carrier is selected from a group comprising vermicompost, soil, peat, rice husk, vermiculite, carboxymethyl cellulose, perlite, polyvinyl-pyrrolidone, talc, and fermented pres mud.

15. A process as claimed in claim 9, wherein the carrier is preferably vermicompost or fermented pres mud.

16. A process as claimed in claim 9, wherein the concentration of carrier is ranging between 10 to 1000-gm/ liter of bovine urine.

17. A method of promoting plant growth using bovine urine and/or crushed neem leaves of concentration ranging between 10 to 750 grams/liter, and/or crushed garlic bulbs of concentration ranging between 1 to 500 grams/liter, optionally along with carrier(s), said method consisting step of exposing plant part(s) to bovine urine and/or neem and/or garlic.

18. A method as claimed in claim 17, wherein the concentration of neem is preferably 250 grams/liter.

19. A method as claimed in claim 17, wherein the concentration of garlic is preferably 100 grams/liter.

20. A method as claimed in claim 17, wherein the bovine is cow.

21. A method as claimed in claim 17, wherein the garlic and/or neem is crushed in urine or water.

22. A method as claimed in claim 17, wherein the carrier is selected from a group comprising vermicompost, soil, peat, rice husk, vermiculite, carboxymethyl cellulose, perlite, polyvinyl-pyrrolidone, talc, and fermented pres mud.

23. A method as claimed in claim 17, wherein the carrier is preferably vermicompost or fermented pres mud.

24. A method as claimed in claim 17, wherein the concentration of carrier is ranging between 10 to 1000 gm/ liter of bovine urine.

25. A method as claimed in claim 17, wherein the method controls plant pathogenic bacteria.

26. A method as claimed in claim 17, wherein the method promotes accumulation of nutrients in plant biomass.

27. A method as claimed in claim 17, wherein the method promotes accumulation of nitrogen in plant biomass.

28. A method as claimed in claim 17, wherein the method promotes accumulation of phosphorus in plant biomass.

29. A method as claimed in claim 17, wherein the method promotes phosphate solubilization.

30. A method as claimed in claim 17, wherein the method promotes abiotic stress tolerance.

31. A method as claimed in claim 17, wherein the method promotes antagonists towards plant pathogenic fungi.

32. A method as claimed in claim 17, wherein the method promotes antagonists towards plant pathogenic fungi in rhizosphere of plants.

33. A method as claimed in claim 31, wherein the fungi are selected from a group comprising *Fusarium* sp., *Alternaria* sp., *Phytophthora palmivora*, *Sclerotinia sclerotiorum, Sclerotium rolfsii, Colletotrichum* sp., *Penicillium* sp., *Aspergillus niger, Rhizoctonia solani, Pythium aphanidermatum, Curvularia lunata,* and *Phoma sorghi.*

34. A method as claimed in claim 17, wherein the method enhances total phenolic content of the plant.

35. A method as claimed in claim 17, wherein the method protects plants from soil borne plant pathogens forming sclerotia / chlamydospores.

36. A method as claimed in claim 17, wherein promoting plants growth by soil drenching.

37. A method as claimed in claim 17, wherein promoting plants growth by aerial/foliar spray.

38. A method as claimed in claim 17, wherein promoting plants growth by seed soaking.

39. A method as claimed in claim 17, wherein promoting plants growth by furrow treatment.

40. A method as claimed in claim 17, wherein the method stimulates proliferation of plant growth promoting microorganisms in the rhizosphere of plants.

41. A method as claimed in claim 17, wherein the method stimulates proliferation of phosphorus solubilizing microorganisms in the rhizosphere of plants.

42. A method as claimed in claim 17, wherein the method stimulates proliferation of abiotic stress tolerant microorganisms in rhizosphere of plants.

43. A method as claimed in claim 17, wherein the neem and/or garlic and/or urine are in boiled state.

44. A method as claimed in claim 17, wherein the plants are selected from a group comprising chickpea, maize, wheat, and pea.

45. A method as claimed in claim 17, wherein the neem and/or garlic and/or urine in earthen and copper vessel promote plant growth.

46. A method as claimed in claim 45, wherein the method using copper and/or earthen vessel promotes plant growth increases plant dry weight by about 110%.

47. A method as claimed in claim 17, wherein the neem and/or garlic and/or urine is diluted in the ratio ranging between 1:5 to 1: 1000.

48. A method as claimed in claim 47, wherein the neem and/or garlic and/or urine is diluted preferably in the ratio of about 1:10.

49. A method as claimed in claim 17, wherein the combination of neem, garlic, and urine is most effective in promoting plant growth.

50. A method as claimed in claim 17, wherein the synergistic combination of neem, garlic, and urine show about 85% increase in wheat growth.

51. A method as claimed in claim 17, wherein the method promotes plant growth by inhibiting sclerotia and chlamydospores of pathogenic fungi in about 2 to 4 hours.

52. A method as claimed in claim 17, wherein the method promotes plant growth by protecting plant from soil-borne plant-pathogens.

53. A method as claimed in claim 17, wherein the method promotes plant growth as combination of neem, garlic, and urine is showing 100% biocontrol activity against collar rot.

54. A method as claimed in claim 17, wherein the method promotes plant growth by controlling leaf spot disease.

55. A method as claimed in claim 17, wherein the method promotes plant growth by increasing dry weight of the plant by about 50%.

56. A method as claimed in claim 17, wherein the method promotes plant growth by increasing nitrogen accumulation by about 50%.

57. A method as claimed in claim 17, wherein the method promotes plant growth by increasing phosphorus accumulation by about 35%.

58. A method as claimed in claim 17, wherein the method promotes plant growth by reducing pathogenic bacterial population by about 1 log unit.

59. A method as claimed in claim 17, wherein the method promotes plant growth by reducing pathogenic fungal population by about 0.7 log unit.

60. A method as claimed in claim 17, wherein the method promotes plant growth by reducing actinomycetes population by about 1 log unit.

61. A method as claimed in claim 17, wherein the method promotes plant growth by increasing antagonism by about 150% towards fungi.

62. A method as claimed in claim 17, wherein the method promotes plant growth by increasing abiotic stress tolerance by about 100%.

63. A method as claimed in claim 17, wherein the method promotes plant growth by increasing phosphate solubilization by about 120%.

64. A method as claimed in claim 17, wherein the method shows increase in gram-positive bacteria by about 40%.

65. A method as claimed in claim 17, wherein the method shows decrease in gram-negative bacteria by about 20%.

66. A method as claimed in claim 17, wherein the method shows increase in gram-positive bacteria.

67. A method as claimed in claim 17, wherein the carrier increases plant growth by 30 to 50%.

68. A method as claimed in claim 17, wherein the carrier increases antagonism towards plant-pathogenic fungi in the range of 30 to 45%.

69. A method as claimed in claim 17, wherein the method promotes plant growth by increasing phenolic content in the range of 120 to 130%.